

REMARKS

Applicant thanks the Examiner for the courtesies extended to Applicant's representatives in the interview conducted on March 13, 2003. As noted below, claim 11 has been amended, and claim 12 rewritten, to address the objection noted by the Examiner. Claims 4, 5, 6, and 9 have been amended to correct obvious errors.

Accordingly, claims 1-12 are pending and under consideration, claim 1 being an independent claims.

In view of the arguments set forth in this Reply, it is submitted that the Examiner's rejections under 35 U.S.C. §§ 102 and 103 have been overcome. It is submitted that pending claims 1-12 in the present application are now both allowable and in condition for allowance, and an action to such effect is earnestly requested at the Examiner's earliest convenience.

OBJECTION TO THE CLAIMS

Submitted herewith are amendments to the claims that address any deficiencies noted by the Examiner in the claim language. Applicant submits that these amendments are not intended to narrow the scope of the claims. The entirety of Claim 12, improperly appended to claim 11, has been deleted from claim 11, and rewritten on a new line. In view of these amendments, the Examiner is respectfully requested to withdraw his objection to the claims.

REASONS FOR CLAIM AMENDMENTS

Claims 4-6 are amended to correct obvious grammar errors. The scope of claims 4-6 has not been changed.

Claim 9 is amended to correct an obvious antecedent error. The scope of claim 9 has not been changed.

Claim 11 is amended to correct the typing error mentioned above, wherein Claim 12 was improperly appended to claim 11. The scope of claim 11 has not been changed.

UPDATE OF INFORMATION SUBMITTED

Of the patent applications cited in the Information Disclosure Statement of March 8, 2002, three U.S. Applications have issued as patents:

U. S. Patent Application No. 09/534,307 issued on 4/09/02 as U. S. Patent No. 6,369,955;

U. S. Patent Application No. 09/791,771 issued on 8/06/02 as U. S. Patent No. 6,429,979; and

U. S. Patent Application No. 09/764,458 issued on 8/20/02 as U. S. Patent No. 6,437,922.

Rejections under 35 U.S.C. § 102 and 103

The Examiner rejected claims 1-4, 7, 8, 10, and 11 under 35 U.S.C. § 102(b), as being anticipated by KOYAMA (U.S. Patent No. 6,028,714).

The Examiner additionally rejected claims 5, 6, and 9 under 35 U.S.C. § 103(a), as being unpatentable over KOYAMA (U.S. Patent No. 6,028,714)

With respect to claim 1, the Examiner referenced column 4, lines 20-49 for teaching the principle of "a main drive device for moving said plurality of variable lens groups along an optical axis thereof in accordance with a predetermined movement path between a short focal length extremity and a long focal length extremity; and

a sub lens group drive device for moving said movable sub lens group within said switching lens group so as to be positioned at one of a movement extremity on the object side and a movement extremity on the image side, with respect to said other sub lens group, in accordance with a corresponding zooming zone of a short focal length zooming zone from the short focal length extremity to an intermediate focal length position, and a long focal length zooming zone from said intermediate focal length to the long focal length extremity" as recited in claim 1.

Applicants note that claim 1 specifies that in the movable sub lens group is moved by the sub lens group drive device, within the switching lens group, so as to be positioned at one of:

a movement extremity on the object side (left side of Fig. 1) with respect to the other sub lens group, in accordance with the zooming zone that corresponds thereto, *i.e.*, the zooming zone of a short focal length zooming zone (that extends from the short focal length extremity to an intermediate focal length position); OR

a movement extremity on the image side (right side of Fig. 1) with respect to the other sub lens group, in accordance with the zooming zone that corresponds thereto, *i.e.*, the zooming zone of a long focal length zooming zone (that extends from the intermediate focal length to the long focal length extremity).

As discussed during the interview, there are fundamental differences between the claimed system and the KOYAMA reference. However, without specifying all of the differences in detail, in order to "match" (at least) different fundamental zoom paths that are discontinuous, the present invention moves a subgroup from one extremity position (on a first fundamental zoom path) to another extremity position (on another fundamental zoom path) in the vicinity of the intermediate focal length.

In contrast, as shown in Figs. 1 or 2 of KOYAMA, the KOYAMA device has only one single fundamental zoom path (dashed line), and, after permitting a subgroup to deviate from the fundamental zoom path in a zooming (photography permitted) zone (in ZW, ZM, or ZT), KOYAMA moves a subgroup to return to the same fundamental zoom path (between ZW, ZM, or ZT) by keeping the distance between them constant. There are no extremity positions - the positions are different for each of three zooming zones, and none are extremities. There is no control to drive the sub lens group between extremity positions. Accordingly, Applicant respectfully submits that the KOYAMA lens groups are not moved between extremity positions as recited in claim 1.

Accordingly, because the KOYAMA document as applied fails to provide all of the claim limitations of claim 1, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 1 under 35 U.S.C. § 102(b), and indicate the allowance of claim 1.

With respect to claims 2-4, 7, 8, 10, and 11, Applicant submits that these claims, which depend either directly or indirectly from claim 1, are allowable over the references of record for the above reasons, and at least for the reason that each depends from an allowable base claim and because each recites additional features to further define Applicant's invention.

These claims also recite further features that are not taught or suggested by KOYAMA.

As an example, claim 2 specifies that the sub lens group drive device causes the recited movement when a main drive device moves the variable lens groups along the optical axis. Claim 3 recites that the sub lens group drive device causes the recited movement when the main drive device is stopped. Claim 4 specifies that the sub lens group drive device causes the recited movement after one of photometering and distance measurement is performed. Claim 5 specifies that the sub lens group drive device causes the recited movement after one of photometering and distance measurement is performed regardless of whether the release switch has been operated. Claim 6 specifies that the sub lens group drive device causes the recited movement after one of photometering and distance measurement device is performed and before the shutter device is actuated upon operation of the release switch.

As another example, claims 8 and 9 specifies focusing control after the movement of claim 4, *i.e.*, after the sub lens group drive device moves the movable sub lens group as specified in claim 4, the sub lens group drive device further moves the movable sub lens group to carry out focusing based on a result of a distance measurement; and moves the

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movable sub lens group back upon operation of the photometering/distance measuring switch being released.

As another example, claim 10 and 11 specify focusing control after the movement of claim 5, *i.e.*, after the sub lens group drive device moves the movable sub lens group as specified in claim 5, the sub lens group drive device further moves said movable sub lens group in order to carry out focusing based on a result of a distance measurement by said distance measurement device; then moves the movable sub lens group back after the shutter device is actuated.

While Applicant does not agree that KOYAMA teaches any of these features, KOYAMA clearly does not disclose or suggest *all* of these alternatives of the order of operations as recited in claims 2-11. Some of these alternatives are mutually exclusive (*e.g.*, claims 2 and 3).

Further, with respect to the Examiner's obviousness rejection of claims 5, 6, and 9, Applicant, Applicant notes that claims 5, 6, and 9 reflect specific control procedures dependent upon (*i.e.*, combined with) specific operations of a release switch or the lack thereof, and respectfully request that the Examiner consider whether the combined procedures would have been rendered obvious.

Accordingly, for at least the above reasons, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1-4, 7, 8, 10, and 11 under 35 U.S.C. § 102(b) as anticipated by KOYAMA, and reconsider and withdraw the rejection of claim 5, 6, and 9 under 35 U.S.C. § 103(a) as unpatentable over KOYAMA, and indicate the allowance of all of the claims.

NEWLY SUBMITTED CLAIMS

Newly submitted claim 13 is similar in scope to claim 1, and should be allowed for the same reasons given above. In particular, claim 13 is different from claim 1 in that it does not

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specify which extremity is toward the object side and which is to the image side, and further, more clearly specifies a range within which the movable sub lens group is allowed to move with respect to the other sub lens group.

SUMMARY AND CONCLUSION

In view of the fact that none of the art of record, whether considered alone or in combination, discloses or suggests the present invention as now defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of all the pending claims in the present application are respectfully requested and are believed to be appropriate.

No amendments were made for the purpose of narrowing a claim, and no estoppel should be deemed to attach thereto. No equivalents are considered to have been disclaimed.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

Respectfully submitted,
Norio NUMAKO

Will. F. Lyall Reg. No. 41,568
Bruce H. Bernstein
Reg. No. 29,027

MARKED-UP COPY OF THE AMENDED CLAIMS

Pursuant to 37 C.F.R. § 1.121(c)(1)(ii), a marked-up version of the rewritten claim(s) is attached here as several pages separate from the amendment. In the present amendment, the marking system employs [] for deletions and underlining (underlining) for additions.

(Amended - marked up) 4. The lens drive control apparatus according to claim 1, wherein:

said camera further comprises a photometering device and a distance measurement device; and

said sub lens group drive device moves said movable sub lens group to one of said movement extremity on the object side and said movement extremity on the image side in accordance with said corresponding zooming zone after one of [said] photometering [device] and [said] distance measurement [device] is performed.

5. (Amended - marked up) The lens drive control apparatus according to claim 1, wherein said camera further comprises a photometering device, a distance measurement device, a shutter device, a photometering/distance measuring switch for actuating said photometering device and said distance measurement device, and a release switch for actuating said shutter device; and wherein

said sub lens group drive device moves said movable sub lens group to one of said movement extremity on the object side and said movement extremity on the image side in accordance with said corresponding zooming zone after one of [said] photometering [device] and said distance measurement [device] is performed upon operation of said photometering/distance measuring switch regardless of whether said release switch has been operated.

6. (Amended - marked up) The lens drive control apparatus according to claim 1, wherein said camera further comprises a photometering device, a distance measurement device, a shutter device, a photometering/distance measuring switch for actuating said photometering device and said distance measurement device, and a release switch for actuating said shutter device; and wherein

said sub lens group drive device moves said movable sub lens group to one of said movement extremity on the object side and said movement extremity on the image side in accordance with said corresponding zooming zone after one of [said] photometering [device] and [said] distance measurement [device] is performed upon operation of said photometering/distance measuring switch, and before said shutter device is actuated upon operation of said release switch.

9. (Amended - marked up) The lens drive control apparatus according to claim 8, wherein said camera further comprises a photometering/distance measuring switch for actuating said photometering device and said distance measurement device, and said sub lens group drive device moves said movable sub lens group back to said one of said movement extremity on the object side and said movement extremity on the image side, upon an operation of said photometering/distance measuring switch being released.

11. (Amended - marked up) The lens drive control apparatus according to claim 10, wherein:

said sub lens group drive device moves said movable sub lens group back to said one of said movement extremity on the object side and said movement extremity on the image side, after said shutter device is actuated. [12. The lens drive control apparatus according to claim 7, wherein said sub lens group drive device comprises:

two sub lens barrels which support two sub lens groups of said switching lens group,

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and which guide said two sub lens groups so as to be relatively rotatable and to be movable between a mutually close position and a mutually distant position, with respect to the optical axis;

an actuator ring, which is engageable with one of said two sub lens barrels, including two engagement portions and cam surfaces formed between said two engagement portions, wherein said actuator ring rotates said one sub lens barrel of said two sub lens barrels between two rotational extremities thereof, and moves said one sub lens barrel in the optical axis direction;

a retaining ring including a guide portion which only allows linear movement in the optical axis direction of said one sub lens barrel at each said two rotational extremities, wherein the rotational movement range of said one sub lens barrel is restricted by said two rotational movement extremities; and

a motor for rotating said actuator ring forwardly and reversely; wherein

after said actuator ring is rotationally driven in a first direction by said motor so that a switching operation of said one sub lens barrel from one to the other of said two rotational movement extremities is performed, said motor is driven in a second direction so that said one sub lens barrel moves in the optical axis direction via said guide portion and said cam surfaces while rotating from said other of said two rotational movement extremities toward said one of said two rotational movement extremities to perform a focusing operation.]

MARKED-UP COPY OF THE AMENDED PARAGRAPHS

Pursuant to 37 C.F.R. § 1.121(b)(1)(iii), a marked-up version of the rewritten specification paragraph is attached here as several pages separate from the amendment. In the present amendment, the marking system employs [] for deletions and underlining (underlining) for additions.

The following shows the changes made to the first paragraph of page 1:

The present application relates to the following U.S. Patent Applications, all filed concurrently herewith on September 24, 2001, and all of which are expressly incorporated herein by reference in their entireties: "ZOOM LENS MECHANISM" having [attorney docket] Application No. [P21180] 09/960,309, "ZOOM LENS MECHANISM" having [attorney docket] Application No. [P21181] 09/961,231, "ECCENTRICITY-PREVENTION MECHANISM FOR A PAIR OF LENS-SUPPORTING RINGS" having [attorney docket] Application No. [P21182] 09/960,515, "REDUCTION GEAR MECHANISM" [attorney docket] having Application No. [P21183] 09/960,521, "RING MEMBER SHIFT MECHANISM AND LENS GROUP SHIFT MECHANISM" having [attorney docket] Application No. [P21184] 09/960,518, "LENS BARREL" having [attorney docket] Application No. [P21185] 09/960,520, "LENS BARREL" having [attorney docket] Application No. [P21186] 09/960,382, "LENS BARREL" having [attorney docket] Application No. [P21187] 09/960,516, "LENS BARREL" having [attorney docket] Application No. [P21188] 09/961,233, "ZOOM LENS BARREL" having [attorney docket] Application No. [P21190] 09/961,185, and "LENS BARREL" having [attorney docket] Application No. [P21192] 09/961,232, each naming as inventors Hiroshi NOMURA et al.